PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application No.	:	10/657,650
Applicants	:	Larry J. Pacey et al.
Filed	:	September 8, 2003
Title	:	Gaming Machine Performing Real-Time 3D Rendering Of Gaming Events
TC/A.U.	:	3714
Examiner	:	Matthew D. Hoel
Docket No.	:	247079-000134USPT
Customer No.	:	70243

Mail Stop Appeals
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.37

Dear Sir:

This Reply Brief is filed pursuant to the Appellants' appeal to the Board of Patent Appeals and Interferences ("Board") from the final rejection of claims 30-50 in the July 9, 2009 Final Office Action. (Exhibit B)[1]. The statutory period for response is two months from the filing date of the Examiner's March 4, 2010 Answer Brief, and therefore this Reply Brief is being timely filed.

In its initial brief, Applicant argued that: a) the combination of Travis and Schlottmann does not disclose that the simulation rule data and physical object data are selected to produce a pre-selected probability distribution; b) Schlottmann actually teaches creating the model running the simulation and then determining the probability distribution from the created model, which is the **opposite** of the clams which create the model with a predetermined probability distribution

[1] All references to Exhibits in this paper reference the exhibits in Applicant's initial Appeals Brief

outcome; and c) the Final Office Action erroneously equates the result obtained by Travis and Schlottmann combination as evidence that the **different** claimed method obtaining the same result is not patentable.

The Answer Brief has failed to refute Applicant's contention that the combination of Travis and Schlottmann does not teach all of the claim elements and therefore the pending claims are allowable under 35 U.S.C. 103(a).

A. The Answer Mischaracterizes The Travis And Schlottmann Approaches; Neither Reference Discloses The Simulation Rule Data And The Physical Object Data Being Selected To Yield A Pre-Selected Desired Outcome Probability Distribution Of A Plurality Of Possible Simulated Outcomes

Applicant disagrees with the Answer's assertion that Schlottmann teaches multiple methods of selecting simulation object data and physical object data to yield a pre-selected outcome probability distribution such as that allegedly shown in Figure 4 and that in Figure 6. (pp. 12-13). In fact, Schlottmann only discloses a singular method of formulating a model of three dimensional objects and their interactions, running the model to determine probability distribution and then adjusting the model in an iterative process to obtain a desired probability distribution. Thus, Schlottmann discloses first creating a realistic physical model and then second running a Monte Carlo test (multiple trials) of the model to determine the probability distribution of outcomes from the model as shown in Figure 4. (Ex. E, Col. 5, ll. 18-42, Col. 6, ll. 13-33). The now determined probability distribution is then used to construct a pay table. (Ex. E, Col. 6, l. 19 to Col. 7, l. 15, Fig. 4). If the distribution is not desirable, figure 6 shows the steps of an iterative process to adjust the model to eventually reach a desired probability distribution after multiple trials of the Monte Carlo test **after each** adjustment. (Ex. B, pp. 3-4, 10). Schlottmann therefore discloses running a model multiple times before perfecting the model

and then implanting the model to determine an outcome based on the determined probability distribution in the actual gaming machine.

Schlottmann does not teach different methods but rather a single process of formulating a model of the three-dimensional system first and then determining the probability distribution of objects interacting in the system. Schlottmann discloses different adjustments to a model depending on whether further iterative steps are necessary. Figure 6 is therefore not a different method of determining the model, rather figure 6 is simply part of the process outlined in Figure 4. The model is used to determine a random outcome only after the model is completed in Schlottmann after numerous trials (Monte Carlo, Fig. 4) and iterative adjustments (Fig. 6).

Thus, Schlottmann does not disclose "the simulation rule data and the physical object data being selected to yield a pre-selected desired outcome probability distribution of a plurality of possible simulated outcomes." Even accepting the assertion in the Answer that there are different methods in Schlottmann, neither figure 4 nor figure 6, either in combination or separately, anticipate selecting the simulation rule data and the physical object data (the model) to yield a pre-selected desired outcome probability distribution since both figures are part of the process of creating the model and then running the model, compiling the results and then determining the probability distribution. There is not pre-selection of a desired outcome probability because the objects of a system that are being modeled have an unknown probability distribution that is determined by running the model multiple times according to the Monte Carlo test.

As explained in the initial Brief, Travis does not use the physical object data and simulation rule data to randomly select a simulated outcome according to a predetermined probability distribution because Travis uses a conventional random number generator to

determine the winning numbers. (Ex. D, Col. 7, ll. 24-35). The simulation is used solely to simulate the action of the balls which then display the resulting numbers determined by the random number generator to the player. (Ex. D, Col. 7, ll. 64-68). Travis therefore creates the illusion to the player that the interaction between objects such as the balls 48 and the cylinders 42 generates a random outcome but the actual outcome is determined first and the process is simulated. The simulation in Travis therefore does not have to accurately model any probability distribution because it is not used to determine an outcome.

B. Regardless of Whether Travis Teaches A Predetermined Probability Distribution, Neither Reference Discloses Creating A Model With A Pre-Determined Probability Distribution

The Answer asserts that Travis teaches that the probability distribution is apparent to the player. (p. 12). Applicant does not dispute this contention, but disputes how one of skill in the art would use this information in combination with Schlottmann. The Answer asserts that Schlottmann would be combined with Travis to create a model (a la Schlottmann) to determine the outcome from a readily discernable probability distribution in Travis. (pp. 14-15). The Answer does not respond to the fact that Schlottmann explicitly teaches that the probability distribution is determined **after** the model is formulated. Further, there is nothing in Travis that discloses use of the apparent probability distribution to form the model as there is no need for the model to have any correlation with a probability distribution. The combination of Travis and Schlottmann would therefore not anticipate "the simulation rule data and the physical object data being selected to yield a pre-selected desired outcome probability distribution of a plurality of possible simulated outcomes" as outlined in the initial Brief.

The Answer repeats the erroneous position that Schlottmann teaches "a predetermined probability distribution" citing the abstract. (p. 12). As explained above, this assertion is

inaccurate. The Abstract actually states that "creation of the list of outcomes and assignment of probabilities of occurrence **may be effected by a Monte Carlo test**." (Ex. E, emphasis added). Far from taking a predetermined probability distribution, the Abstract demonstrates that the model is created first and then the probability is determined by running simulations, the opposite of the process in the claims. (Ex. E).

The Answer concedes that Schlottmann teaches exactly the opposite of that of the claim by stating "Schlottmann would have allowed one of ordinary skill in the art ... **to develop a physical model using an iterative process until an even one-on-eleven distribution** was obtained for a column of lottery balls such as depicted in Travis." (p. 13, emphasis added). In other words, if applied to Travis, Schlottmann runs the modeled elements iteratively to determine probability distribution, it does not first predetermine the desired probability distribution and then form the model based on this predetermined probability as required by the claims. The probability is therefore set before the modeling in the claims as opposed to deducing the probability from the tests from the model based on Monte Carlo results as in the Travis/Schlottmann combination.

C. The Same Result Of Using A Three Dimensional Model To Determine A Gameplay Outcome Relied On By The Answer Does Not Render The Claims Obvious

The Answer continues to erroneously indicate that claims 30 and 40 are obvious because Schlottmann's methods may produce a three-dimensional model that yields that same probability distribution via multiple testing such as Monte Carlo as the predesigned models of the present claims. (pp. 18-19). As explained previously Schlottmann cannot anticipate the elements of "the simulation rule data and the physical object data being selected to yield a pre-selected desired

outcome probability distribution of a plurality of possible simulated outcomes" as Schlottmann iteratively determines probability distribution. The present claims select physical object data and simulation rule data once because such modeling factors are designed around a pre-selected probability distribution. Such a probability distribution must be iteratively arrived at using the Schlottmann method. The fact that both the Schlottmann method and that of claims 30 and 40 result in the roughly the same probability distribution does not mean that Schlottmann's different method of iterative testing go determine the probability distribution anticipates the claims.

The Answer also states that Schlottman teaches that a single simulation is used to determine the result for gameplay and therefore could be applied to simulate physical object interaction using a single simulation run for the purposes of game play. (p. 17). This point is irrelevant as the critical element of the claimed method relates to development of the model for the simulation run and not the application of the model to determine gameplay outcomes. Although the claims also require use of the simulation model to determine the outcome for gameplay, Applicant is not relying on this element to distinguish the claims over Schlottmann and Travis.

D. The Answer's Emphasis On the Monte Carlo Model In Schlottmann Is Irrelevant; The Combination of Travis And Schlottmann Is Impermissible As Schlottmann Changes The Fundamental Operation Of Travis

The Answer fixates on Schlottmann's use of the Monte Carlo technique which combined with Travis results in a simulation that produces a random outcome which would be desirable to combine the references. (pp. 7-8, 13). However, Applicant is not contending that Schlottman does not achieve the same results as the claim (i.e., constructing a model to determine a random outcome according to a probability distribution). Applicant contends that the method taught in

Schlottmann whether alone or combined with Travis do not anticipate the claimed method because Schlottmann does not anticipate the method of designing the model.

Because Schlottmann approach would alter the operation of Travis, the combination of Schlottmann with Travis is improper. As explained in the initial Brief, the fundamental operation of Travis determines the gameplay result via a standard random number generator and uses the simulation to provide the illusion of the interaction of objects that determine the result. Schlottmann determines the random outcome by an entirely different means, running the refined simulation of objects to determine an outcome. The combination of these references is illegitimate, MPEP 2145 (III) specifically prohibits this type of combination stating "however, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose." The suggested substitution of Schlottmann with Travis would change the principle of operation of Travis by obviating the random generator and the use of the model as a display for the player. The combination is therefore improper.

CONCLUSION

It is the Applicant's belief that all of the pending claims (30-50) are in condition for allowance and requests that the Board reverse the rejections of the Final Office Action.

Respectfully submitted,

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